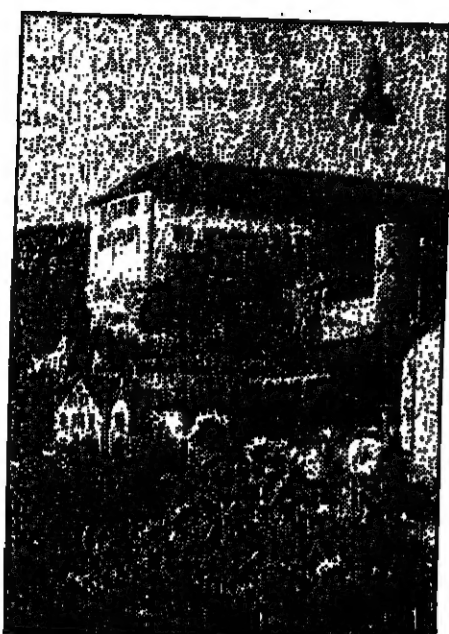


Routes to tour in Germany

The Castle Route

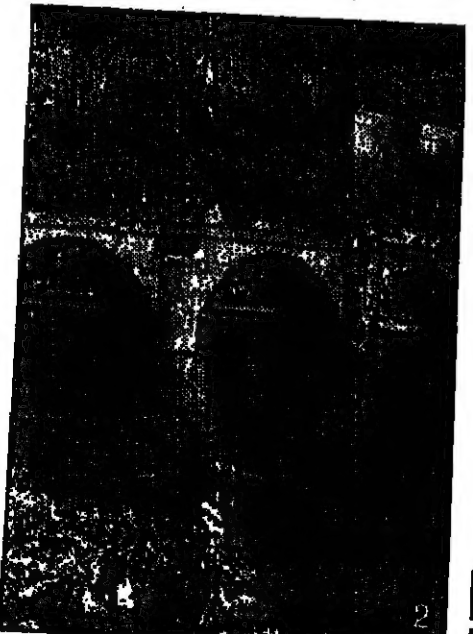


German roads will get you there. But why miss the sights by heading straight down the autobahn at 80? Holiday routes have been arranged not only to ensure unforgettable memories but also to make up an idea for a holiday in itself. How about a tour of German castles?

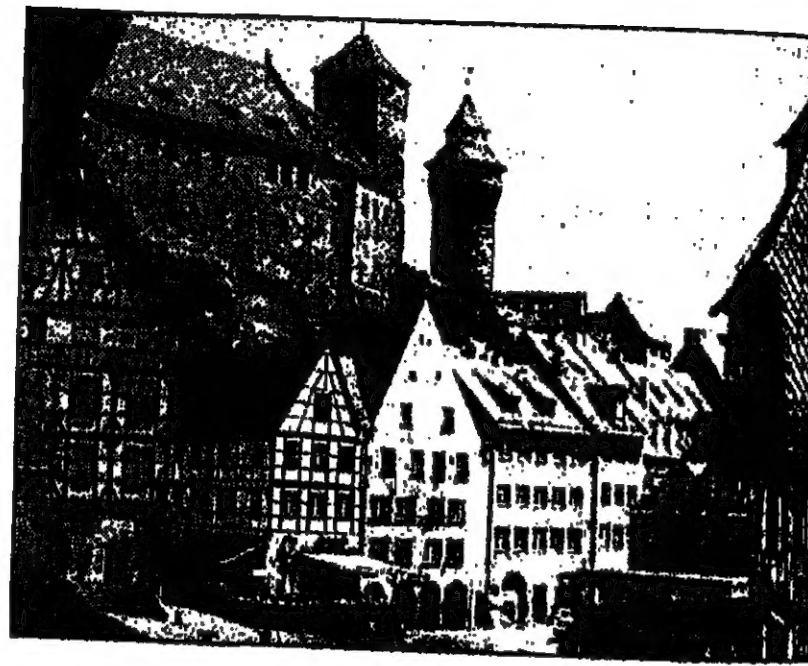
The Castle Route is 200 miles long. It runs from Mannheim, an industrial city on the Rhine with an impressive Baroque castle of its own, to Nuremberg, the capital of Bavarian Franconia. The tour should take you three days or so. We recommend taking a look at 27 castles en route and seeing for yourself what Germany must have looked like in the Middle Ages. The mediaeval town of Rothenburg ob der Tauber is intact and unspoilt. Heidelberg is still the city of the Student Prince. In Nuremberg you really must not miss the Albrecht Dürer House.

Come and see for yourself the German Middle Ages. The Castle Route will be your guide.

1. Gündelsheim/Neckar
2. Heidelberg
3. Nuremberg
4. Rothenburg/Tauber



DZT DEUTSCHE ZENTRALE FÜR TOURISMUS E.V.
Beethovenstrasse 69, D-6000 Frankfurt/M.



The German Tribune

A WEEKLY REVIEW OF THE GERMAN PRESS C 20725 C ISSN 0016-8858

Mannheim, 10 April 1983
Twenty-second year - No. 1079 - By air

Economic issues bestride policy makers of Europe

Europe's three most important countries face, in differing ways, crucial tests of government.

In the Federal Republic of Germany, the new government is about to get to work with political and economic problems.

In Britain, the government is in a pre-election phase; and in France, the government is about to get to work with political and economic problems.

Bonn Chancellor Helmut Kohl says that his own instinct does not tell him what path to take, he could well learn a lot from what has happened in other countries.

It looks as if no post-war government in Europe has devoted its energy to fulfilling its task as resolutely and single-mindedly as has Margaret Thatcher's Conservative government in Britain.

Mrs Thatcher, the first woman to become head of government in the western world, took office facing a two-front war: a high rate of inflation which was threatening to move on to 20 per cent.

Britain had a debit balance of payments. This caused currency upsets.

Unemployment was steadily making its way towards two million and State Expenditure was high.

Mrs Thatcher set her priorities after the election.

IN THIS ISSUE

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Kohl's Cabinet: the men who will meet the challenge

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Helmut Schmidt gets top newspaper editorial post

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Relations: Anglo-German relations broaden their scope

INNOVATIONS Page 14
Birth of a disc halts the death of an industry

fully studying what had happened in previous governments.

to try and tackle unemployment through programmes increasing the supply of jobs only speeds up inflation, increases unemployment and doesn't help the currency. This at least was her assessment.

to first she tried to come to terms with inflation. Today it has been reduced to one of the lowest rates in the world.

North Sea oil helped her to improve her current account and come to grips with the state debt.

Neue Presse

There was some hard bargaining with various ministers to cut back budget spending.

She put ministries on financial limits. She also managed to come to terms with the wave of wage rises, and she now has everything under control.

Unemployment is more than three million, even though the upward trend has slowed.

Now, the budget has carefully started to stimulate the economy. The voters have been given more spending money and will play a more active part in economic recovery.

If Mrs Thatcher re-elected she will be able to her full attention to unemployment, one of the toughest problems of our times.

President Mitterrand is in the process of changing his policy after two years of costly experiments.

While Mrs Thatcher did not pay homage to any ideology but only to cool and calculating housewife logics, Mitterrand began by pushing through his socialist policies of redistribution, state intervention, nationalisation and putting the strain on the private sector.

The revaluation of the D-mark is one of the results, but it is the French

who suffer most. They have been hit by the problems Mrs Thatcher came across three years ago. Mitterrand has now decided on an austerity programme which will match Mrs Thatcher's in toughness and consistency. Its intention is to regain control over the threat of economic and financial chaos. Mitterrand is not going to take on the problem of unemployment first. His measures will lead to an automatic increase in unemployment to begin with. This is not because he doesn't cure about unemployment but because he has to get his house in order.

Kohl is still an unknown factor. His Finance Ministry has confirmed the troubles.

Nevertheless, Germany's economy is still in good shape and the expected economic upswing will give Kohl a good start.

The German government has not only spoken of an upswing but also of



Kohl's chancellorship confirmed with a handshake. Bonn president Karl Carstens welcomes Helmut Kohl to the presidential residence in Bonn, the Villa Hammerschmidt, after Kohl's election win. (Photo: Werek)

the strains that will be felt by certain sections of the population.

The examples of what has happened in our neighbouring countries show that unnecessary delay at the start can lead to greater difficulties later on, and perhaps to an election defeat because of softness at the beginning.

A look at what has been happening in Paris, London and Bonn would suggest that some tough years lie ahead.

Hans-Joachim Nitzsch
(Frankfurter Neue Presse, 26 March 1983)

New thrust in search for a deal on missiles

President Reagan has suggested an "interim solution" to the Soviet Union over medium-range nuclear weapons in Europe.

However, Reagan regards such a solution as just one step on the way to an ultimate zero solution.

The creation of a balance in the number of Soviet and American medium-range missiles is to be followed by their complete removal.

There is an obvious reason why the USA allowed itself to be persuaded by Western Europe to introduce a new proposal into the negotiations.

Washington wants to be able to shift the blame if the talks do in fact fail.

Some western governments have made their agreement to the deployment of medium-range missiles on their territory dependent on evidence of the USA's true will to negotiate.

The unpopular "double decision" by

Nato can only be put into practice if the populations of the countries affected are convinced of its necessity.

The Reagan Administration is suffering from a credibility gap, particularly over arms control.

The US Defence Ministry never ceases to maintain that the decision to deploy US missiles in Europe cannot be reversed, regardless of what happens in Geneva.

This would run contrary to President Reagan's alleged preference for the zero option.

Reagan's new proposal leaves no doubt about the fact that the "still-born" zero option really is now dead and buried.

The bargaining will start a new when the Geneva talks are resumed on 17 May.

Decisions will then have to be taken on how many missiles the Americans can deploy in Europe and how many

missiles the Soviets must withdraw to bring about a true balance.

However, as the zero option is carried to its grave we should perhaps spare the odd tear or two.

For Europe it would have been the best solution for the Soviet Union to dismantle all its 550 odd medium-range missiles, for this would have made the Nato deployment plans superfluous.

Unfortunately, it was clear right from the start that Moscow would not accept such a deal.

The Soviet regard as their right to own missiles which are aimed at targets in Europe ever since they deployed 750 SS-4s and SS-5s at the start of the sixties.

They regard this as a counterweight to the American bases in Europe and the French and British nuclear weapons.

Gradual replacement of the old missiles by the SS-20s is, in their opinion, merely an overdue act of modernisation.

The West was not particularly worried about the SS-4s and SS-5s, as they are not suited for a surprise attack.

The fuelling process before take-off takes several hours and leaves behind a

Continued on page 2

(General-Anzeiger Bonn, 29. März 1983)

Dr. J. C. 135

Die Zeit's publisher, Gerd Bucerius, announced the appointment at a general editorial conference in March. It was met with an amazed silence. After

by the history,

anybody could not have failed to notice that a recent issue carried a six-page article by Helmut Schmidt entitled "The World Economy is Our Destiny."

the spot. He has reported from Indochina, North Africa, the Congo (during the

time and, as Scholl-Latour
WDR Director General Klaus
march was "not amused."

Since Scholl-Latour is first and foremost a journalist and has no

by tours as general staff officer in an armoured division in northern Germany

Consideration in drafting the military



A. Szandar.
(Süddeutsche Zeitung, 28 March 1988)

properly coordinated. This has led to repeated criticism of academic training for soldiers.

has barely a handful of people of this calibre.

Friedrich Thelen

Between 1961 and 1964 he worked

himself through his books. *dpa*
(General Anzeiger Bonn, 16 March 1983)

Since Scholl-Latour is first and
most a journalist and has no
Continued on page 5

volving 256 planes and the loss of 10

Friedrich Kuhn/dpa
(Allgemeine Zeitung Mainz, 16 March 1983)

Friedrich Thelen
(Die Welt, 23 March 1983)

INTERNATIONAL RELATIONS

Königswinter Anglo-German talks broaden their scope

The Königswinter Anglo-German Conference has been a regular spring-time event now for 33 years.

For many years, both sides were content to preoccupy themselves with their own respective problems: the British urged the Germans to recognise the Oder-Neisse Line, while the Germans urged the British to take a plunge and join the Common Market.

This mutual contemplation of navels has gradually become a thing of the past.

Attention has increasingly focussed on the common problems facing both countries within larger organisational units and on the difficulties associated with the membership of these international bodies.

This time, the central question was: how stable is the Atlantic Alliance?

Henry Kissinger once hit the nail of pessimism right on the head once when he said: "There is hardly any issue on which Americans and Europeans share the same opinion."

The following are just some of the disputed topics: the way to behave towards Moscow; East-West trade; disarmament policy; strategic doctrine; how to deal with the Third World; economic policy.

What many conference speakers said back up this pessimistic appraisal of the situation.

The deputy head of the British La-

bour Party, Denis Healey, for example, argued against the conservatives on the Potomac who claim that thin Russians are easier to negotiate with than fat ones.

Others, such as the CDU politician Carl Otto Lenz, condemn such Atlantic pessimism: "We're all in the same boat, but instead of all rowing together we're discussing who's been hit hardest by sea-sickness."

A compromise between the two views prevailed. There is still a fundamental identity of interests between America and Western Europe, that which divides.

All existing problems can be solved if there is good will on both sides.

The discussion on rearmament petered out, with experts seeing things through expert's eyes and politicians through politicians' eyes.

What one group regarded as lacking in problems the other found to be difficult to implement.

Both the British and the Germans get the creeps when they think forward to the possible deployment of new Nato weapons in Europe at the end of the year.

One politician had the presumption to say: "Even if the acts of civil disobedience lead to one or two deaths, the government must stand firm in its decision to deploy the new weapons."

This prompted a British lord to re-



At the Anglo-German talks: from left, Lilo Milchsack, honorary president of Deutsch-Englische Gesellschaft, the British-German society which sponsors Königswinter talks; Karl Günther von Hase, the society's chairman and Jochen Lemann, Minister of State at the Foreign Ministry. (Photo: Heinz Engel/Conto)

mark: "Our government will step down from the decision long before there are two dead persons..."

Otherwise, the mood was one of general agreement.

The growing unemployment upsets people more than the arms issue, and it was hardly surprising that the discussion centred on this topic. Unfortunately, too much time was wasted on theoretical excursions.

Intervention by the state or market mechanisms, supply-oriented economic strategies or a boost in demand?

At the end, both sides could only agree that the most useful solution is a compromise between the two.

One professor from Berlin was ardent in his criticism of all those who want to do everything via the price.

His argument was based on the fact that it is an illusion to believe that price competition exists on all markets, the prime example to the contrary being the labour market.

According to his analysis, those jobs lost during the recession will only be available to 50 per cent of unemployed if the economy picks up.

The other 50 per cent can only be re-integrated via "socialism within the working class", i.e. the investments must be financed by the workers.

For if this task were passed on to the factor capital, workers would very soon find themselves out of work again. However, a union member had something else to say.

In his opinion, there is no way of getting around a reduction in working hours (on a weekly basis or in terms of working years). The campaign to push this through will begin in autumn.

As he pointed out, 80 per cent of those workers who had the choice decided to finish work at an earlier age.

During the discussion on the relationship between America and Europe a plea was made to create a European centre of power, a reminder of Kennedy's Grand Design of a two-pillar alliance.

The time has come for joint European action, it was claimed.

Today's big problems, unemployment, pollution, growth policy, international indebtedness, can only be solved via a coordinated approach.

Compared with the international institutions set up after the Second World War, which contributed towards an economic upswing — the Marshall plan, Bretton Woods, Gatt, — we have lost our fantasy and have resigned ourselves to the way things are, said Labour politician Peter Shore, who went on to issue a plea for new initiatives on a European level.

Another British guest felt that the

time had come for the government (the EEC) member states to do things themselves again as seems to be moving in Brussels.

Professor Ralf Dahrendorf said that there are three problems with the West German economy.

First, both countries are in a period in which the campaign of disobedience against rearmament is increasing.

Second, both governments have economic-policy promises which cannot keep: even an economic swing will not be able to rearmament.

Third, the mobility of voters' sides of the Channel is increasing. Voters who are no longer show allegiance to traditional electoral loyalties and ideas.

Why are there no Greens in the Bundestag? No clear answers could be found.

The German Greens presented

DIE ZEITUNG

selves at the conference for the first time and proved to be both entertaining and enlightening.

Dahrendorf's thesis that the chanting of many people who are seeking representation in the political extremes rather than in the middle-ground met with a response among the Greens, particularly interested in decentralisation, regionalism and participation of the majority of the citizens in political activities.

The question of whether minorities are always in the right and why a majority in parliament is allowed to vote on the fate of regional minorities, though the latter usually represent the majority in the area in question, just some of the points of discussion.

The counter-question of course should minorities be allowed to vote in the majority?

The reply given by the Greens was that elected elites no longer represent the majority of the population.

Although not acting as mediators in this dispute, one British participant calmed down both groups by pointing out that even if the variety of interests were to be split up into an infinite number of small groups, the basic decision-making would still have to be made on the alternative of a majority — a statement which hardly be disputed.

Marion Griffin, Director of the British-German Society, said that the engineers define them, are

AUTOMATION

The shadow of Siegfriedle hangs over assembly-line workers

Siegfriedle's job at the Daimler car factory in Metzingen on the Neckar is unhealthy.

Work permitting, wrapped up in a protective cover, Siegfriedle is one of those robots for spraying black paint on the front axles of the Mercedes 190. It passes by hanging on the assembly

line. Siegfriedle doesn't worry much about his poisonous environment of paint and solvents and, reliable as he is, completes one shift after the other.

For, apart from his nickname, this particular sprayer is not really all that human: his proper name is Robot II on the assembly line.

Siegfriedle cost about DM140,000 and was bought from the Norwegian factory Trollf.

"We're not living behind the times" Werner Niefer, head of production at the Daimler-Benz AG, "even if people tell us we are, comparing us to the Japanese with their 100,000 robots."

Siegfriedle is certainly no lonely robot: the Swabian company has already installed 300 industrial robots. The robots help out when it comes to welding, moulding and hardening components.

They do the welding on the 52 weld-joints on the rear axles of the new small Mercedes. They also complete the welding on the bodywork of the S and the new 190 class car, and do the painting, stick on the protective material to protect the bottom of the car, and the heavy spare wheels into the

trunk. There's even a robot who checks whether the other robots have done their welding properly.

The early days were not so successful. Niefer points out, himself a doctor of engineering, reminding us of the early period for robots.

The biggest problem was that the robots had to keep their welding points within a millimetre accuracy.

This wasn't easy for robots using welding devices weighing five to ten kilograms.

Robots were first used for Mercedes in 1970 to weld the side panel of the W123 class cars.

After a while the industrial robots, or more precisely the engineers in the works, managed to strike a balance between power and precision and the breakthrough was achieved in the field of welding.

Fully automated welding lanes only came off at the production level of about 100 car bodies a day.

In Daimler-Benz's case, on the other hand, the full automation of bodywork is still a long way off. The replacement of welders by robots, turned out to be an economic proposition at a level of just a few hundred cars a day.

Niefer explains, "the welding robots are much more flexible in comparison with the rigidly linked special machines needed for the manufacturing of large production series."

Because of their many advantages, the "easy-to-programme operational robots" as the engineers define them, are

gaining in popularity in other fields of production.

These machines, which can move on five or six axes for one tool (for example, a set of welding pliers) or for one work-piece (one engine block, for example), can take on operations which are difficult and damaging to health — whether in a blast furnace, on welding lanes in spraying works, where it is more and more difficult to find anybody willing to do the job, despite high unemployment.

In addition, the electrically, pneumatically or hydraulically operated robots are often much better than humans, and in cases where two shifts are operated they are also less expensive than wage earners.

Finally, the 'slaves of steel' enable the manufacturers to replace the efficient but extremely rigid transfer lanes by flexible production lines.

The robots, constructed by Kuka (Augsburg) and Unimation (USA) can deal with cars of all categories.

They are programmed for each model and can be adjusted as the need arises.

This makes it easier for the works managers to re-arrange production according to the orders which come in, i.e. on a shorter-term basis.

If one car model is replaced by a new one, all the programmers have to do is to re-programme the robots in line with the new tasks.

The usual rigidly linked transfer lanes, on the other hand, have to be completely dismantled and very often sold as scrap.

On the other hand, the "one-purpose lane" in Sindelfingen does have advantages over the robots.

It puts together almost 1,000 bodyworks each day and can weld almost 99.5 per cent of the weld points for the medium-range cars.

Süddeutsche Zeitung

Robots in the S-class only manage 70 per cent. What is more, the "one-purpose lane" is more precise than the operational robots and even the welders with their heavy welding devices.

"The car industry is the fastest to take on new technological developments", says Rolf D. Schraft, Director of the Fraunhofer Institute for Production Techniques and Automation (IPA) in Stuttgart-Valbingen.

It is a kind of 'one-step-ahead' industry for robots, "about 60 per cent of the machines used in the Federal Republic of Germany can be found there".

The Institute, which is also one of the most important advanced specialists in the field of mechanical engineering, estimated the number of industrial robots used in domestic industries at 3,500 (up to last December), 1,200 more than the level for the previous year and almost three times as many as at the end of 1980.

The IPA reckons that there are now about 9,000 robots in the whole of Europe, as many as there are in the USA, the original 'home' of the robot.

The car industry has always been in the lead in this particular field. Volkswagen went along with Daimler-Benz

towards the end of the last decade and began employing them. The Americans had constructed the first robots in this field during the 1960s. Today, VW in Wolfsburg is not only the largest German manufacturer of robots; it has also installed the most.

By the end of last year, the VW and Audi plants were using about 960 robots. By the end of 1983, the figure is planned to increase to 1,240.

Alongside VW, which up to now has only constructed robots for its own use, there are well over a dozen other companies which manufacture them in Germany including Keller + Knappich (Kuka), Jungheinrich, Reiss, the Zahnradfabrik Friedrichshafen, Siemens and Bosch.

"I have sincere doubts as to whether most of them have in fact managed to earn money yet", says Schraft.

For although the unit costs for the robots are low, the cost for research and development are very high.

Sometimes, says the IPA man, the robots are worth more than their purchasers pay — the going rate is between DM50,000 and DM300,000 a piece.

"These are policy prices just to ensure entrance into the market."

The German robot manufacturers have to compete against the much larger companies from abroad, which have been in this business a lot longer.

The Swedish company ASEA, Norway's Trollf, the American companies Unimation and Cincinnati Milacron, Kawasaki Heavy Industries and Fujitsu, the market leader in Japan, for example.

A look at the various jobs the robots have been programmed to do by the production managers provides an idea of their versatility.

1,300 of the 3,500 robots counted by the IPA are involved in spot welding operations, 585 do welding joints, 400 do coating work, i.e. spray paint or PVC.

Many are used for loading and unloading, to carry heavy pieces of machinery. However, up to now only just over 100 are being used in the assembly work itself.

In the Mercedes works, for example, half of the total manufacturing time is required to assemble passenger cars.

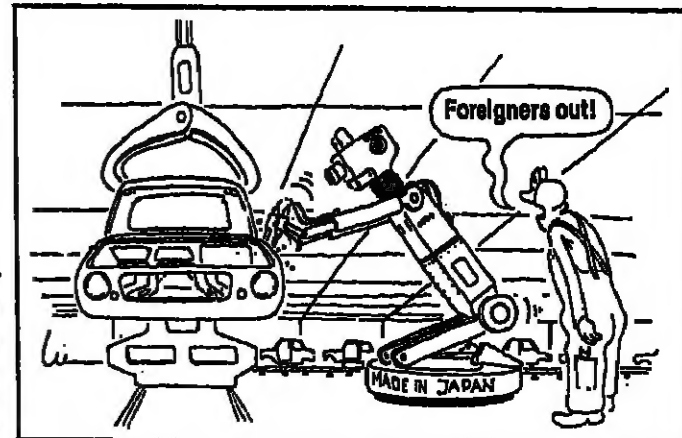
"We've still got a long way to go in the assembly field", Schraft sadly remarks.

The robots are still not able to do the more complicated handwork required for assembly line jobs, as many of the parts are constructed in such a complex way.

For example, none of the robots in German factories can tell the difference between the sizes needed for individual tools such as a screwdriver etc.

The devices are unable to come to terms with "an environment in which there are non-organised elements", as Schraft puts it. They just haven't got the "optical and tactile sensors" humans possess.

Engineers throughout the world working on robots are therefore concentrating their attention on developing better



(Cartoon: Liebermann/Die Produktion)

sensory techniques, often with the aid of the TV camera.

Their primary objective is to teach the robot how to select the correct tool for the proper situation and thus enable more exact work on the conveyor belt.

Robots are already able to do the more simple tasks in this field, such as putting on washers or assembling the crankcase.

Up to now, however, the more complicated operations have only been tested in the experimental laboratory atmosphere and not under factory conditions.

The Hanover Trade Fair after Easter is sure to see IPA blowing its horn to attract greater interest in its robotniks.

The BBC electrical appliances company will be presenting a robot which can distinguish between brightness and darkness. It will be able to dip into a tray and hand over a tennis ball as a present to the amazed visitor.

The perfection of such abilities on the motor assembly line will, however, remain the dream of robot fans over the next few years.

The unions, particularly the metalworkers union IG-Metall, already view the robots as a major job-killer.

To begin with, the metal workers regarded their metallic co-operator as a more sturdy colleague, which would help improve overall working conditions. However, their forecast has become more gloomy.

By the end of the 1980s there will be at least 40,000 industrial robots in operation in the Federal Republic of Germany alone.

Heinz Jäger, who is particularly involved in dealing with the social implications of automation and who works in the IG-Metall's headquarters in Frankfurt, sees trouble ahead.

According to a recent report by the German Trade Unions' own Institute for Economics and Social Sciences in Düsseldorf, between 200,000 and 300,000 of the 1.1 million workers employed in conveyor belt activities will lose their jobs over the next few years.

A robot can, depending on the job in question, replace up to five workers. Gustav Felth, a member of the joint project on the "Humanisation of the Working Environment" backed by the IG-Metall and the Federal Ministry for Research Activities, believes that the job-killing effect will increase in the near future.

"The robots are becoming more and more intelligent", he comments. "Things will probably take off in this field in 1985."

In his opinion, there is a much greater threat to the machine-building industry.

Felth: "Up to now, we've not really built up a proper oppositional front against the robots."

However, with the danger to jobs growing due to the new technologies

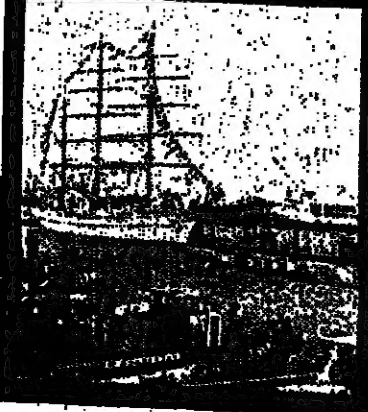
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THE ENVIRONMENT

Minister declares war on pollution pirates



The Minister of the Interior, Friedrich Zimmermann has drawn up a DM1bn plan for a fleet of ships to patrol German coastal waters to catch marine polluters.

The fleet would be run by the Federal border police (Bundesgrenzschutz). Herr Zimmermann has also plans to increase aerial surveillance by the border police.

But cost is a problem that may prevent him from jumping in right at the dirty end of the ecology pool and making a name for himself.

The proposed 60-metre long, helicopter-carrying ships are almost in the corvette class and would cost DM200 million each. Helicopters are expensive. And a team of more than 300 would be needed to run the force.

In addition, there is the element of competition: boats from the customs department are already used for spotting polluters. The coastal states also use harbour police and other forces to patrol.

Herr Zimmermann's plans are to be looked on as a flanking measure on a national level in preparation for a conference planned by him for 1984 in which the countries bordering the North Sea will discuss the problem of oil pollution at sea.

However, his Ministry feels that concrete counter-measures cannot wait until then.

This is the reason for the plans to extend and expand the operations of the border police.

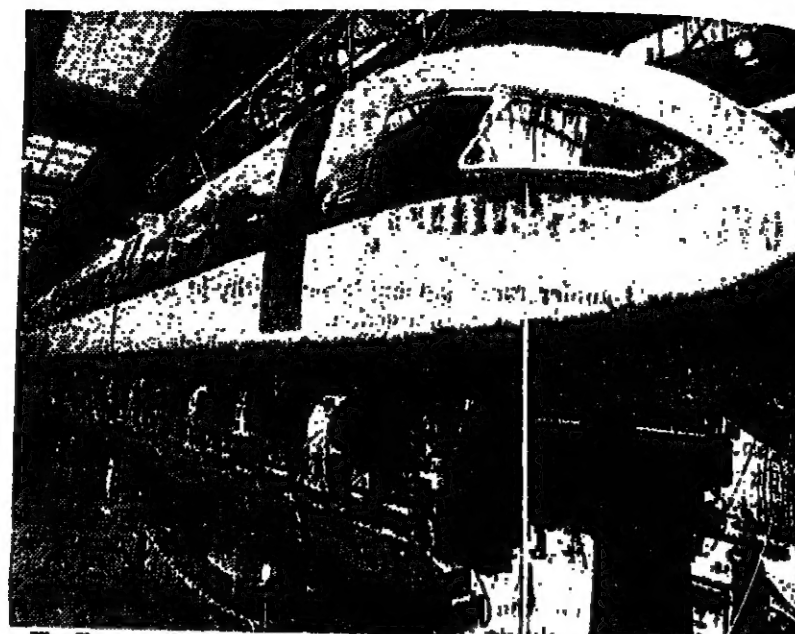
Talks are to be held soon with the Finance Minister, Gerhard Stoltenberg. Hopes are high that these proposals will be accepted and money supplied.

Stoltenberg, who himself comes from Schleswig Holstein in the north of Germany, will be interested in a clean sea, not to mention the jobs for the suffering shipyards which are also endangered by continued pollution.

The customs boats, which are under the responsibility of Finance Minister Stoltenberg, already keep an eye out for pollution at sea.

The coastal federal states, the CDU-run Lower Saxony and Schleswig Holstein and the SPD-run city states Hamburg and Bremen, also have their own capacities to protect the shipping routes — either with the help of the harbour police or by the other means.

Werner Dollinger, Minister for Transport, will also be interested in having a say in the matter.



The Transrapid 08... ready for operation, but there are doubts about it.

TRANSPORT

Hovertrain comes on line

This particular Ministry has a coordinating centre in Cuxhaven to deal with reports of oil pollution.

In Transport Ministry circles there would seem to be a greater interest in extending existing capacities rather than creating new ones, at great expense at that.

Not only would Zimmermann need DM1 billion for boats and helicopters but additional money for the running and maintenance costs of the Bundesgrenzschutz fleet, which hasn't even got a base in the North Sea.

The most restrained Minister over the issue is the Minister for Defence, Manfred Wörner (CDU). His navy would be more than willing to take over the surveillance functions proposed for the Zimmermann fleet.

Even during the previous SPD/FDP government's period of office a "memorandum" was made according to which the Minister for Transport was willing to pay the navy for such services.

And after all, the various captains and pilots, whether they're in a Starfighter, Tornado or a helicopter have clear instructions to immediately radio report any cases of environmental pollution they may witness to the centre in Cuxhaven.

The Dornier company has financed by the Ministry for Transport developed a special device for Do-28 machines in the Navy, which can detect exact data on the culprit.

Highly sensitive

It consists of a side-borne radar, TV apparatus, infra-red and microwave sensors.

They have been brought up to such a degree of sensitivity that it would be impossible to fit them into a helicopter; they can only be transported by Starrflüglersuch as the Do-28s.

In view of the severe lack of money for fuel, the navy would undoubtedly be happy to increase their sea-borne hours with the financial backing of the Minister of Transport. Thus, two birds could be killed with one stone.

The training of the crew would be improved and at the same time something would be done about environmental pollution.

If it should prove necessary for the border police to step in, he could be transported via helicopter.

One expert in Bonn feels that the German Auditor General will regard Herr Zimmermann's project as a waste of tax-payer's money.

A. Szander
(Allgemeine Zeitung, 21 March 1983)

THE MEDIA

Light entertainment show wins television award

Adolf Grimme Prize is the only prize and competition which covers whole range of TV programmes. It was first awarded in 1964.

The prize has always acted as a seal of approval for the latest moods and in German television.

It is good to see the jury cast its vote for light entertainment programmes, which both belong to the best of something which need not necessarily be incompatible — the most popular programmes shown last year.

The gold was taken by Alfred Bieler in the TV series called *Bio's Bahnhof* (The Station), which is indeed produced in a disused railway shed in Frechen, Cologne.

With its well-rounded comic effects and intelligent wit, the show was a true tour of clever slapstick, marvellous imitations and interesting contrasts.

The programme set out to combine responsible elements which attract and repel one another.

After twelve years of the award comes just at the right time for the show's inspiration, Dr Bieler 6" (TR6), which is still in the studio and bid farewell to life in the for most of its functions in the day station.

Another obvious choice for a prize was the satirical programme *Scheibchen* (windscreens-wipers) which in Emsland at the end of March.

Joint sponsors of the project, some of the country's politically the German Federal Railway (Deutsche Bahn) and Luft Hansa.

The 51-ton train will have a *Scheibchen* (windscreens-wipers) which in Emsland at the end of March.

The train should reach speed of 300 km/h over the 20.6 km track by the end of the year. It has reached over 400 km/h in the tests.

"The magnetic railway is a new transport system," says Stefan Hedrich, who is in charge of transport engineering department of the firm running the project.

This vehicle combines the best of a plane and a train, although it has greater resemblance to the latter than to the former.

It cannot come off the rails and is not more than 300 km/h over the 20.6 km track by the end of the year. It has reached over 400 km/h in the tests.

In case an emergency does arise, emergency slides have been laid down on the surface of the hovertrain.

It is not a surprise that the hovertrain is presented for general series of TV series by Franz Peter Wirth, German firms, is quiet, wear-resistant and friendly to the environment.

The hovertrain rails could be laid over existing railway lines.

"Our dream run would be Cologne-Düsseldorf," explains a spokesman for the firm.

The magnetic railway would be particularly useful as a shuttle service for ports or commuter services in the area.

At present, 50 possible locations for trial runs are being examined around the world.

A project in the USA has been approved. The construction of a stretch from Los Angeles to Las Vegas is to begin in 1986.

Eight Transrapid successors could then transport a daily load of 600 passengers in a journey of 1 hour and fifteen minutes.

At present, normal trains take a half hour for this run.

(Allgemeine Zeitung, 16 March 1983)

We see strong ties between Germans and foreigners but also antagonisms. The special prize for *Ausländer in der Bundesrepublik* (Foreigners in the Federal Republic) shows how fast those responsible for awarding the prizes were to react (this includes the Adolf Grimme Institut which plays a large part in decisions).

The very fact that this field is the most important and politically tricky issue of the day in Germany should be enough to boost the promotion of films which deal with these problems critically. What was missing this year was the selection of a smaller magazine-type report.

The rundown given by Stefan Aust on the occasion of persons from eight houses in West Berlin on 29 September, 1981, including the video playback of how Hans Jürgen Rattay died would have been a good candidate in this respect. Dr Wolfgang Moser's report on the slaughtering of seals.

The neglect of such documentary-style films makes it look as if TV is lacking in topicality.

A final example of good topical reporting is Ulrich Kienle's description of the weeks preceding the assassination of the Lebanese President Béchir Gemayel and of the terrible massacres in the Palestinian camps of Sabra and Chatila. His piece was *Heisser Sommer*.

No Third World topic, no environmental issues, nothing topical taken from a magazine programme.

Where was the prize for Hans Dieter Grabbe's film documentaries or Gerhard Böts' report on the *Schandfleck KOMM* (The KOMM Disgrace), the scene of the most spectacular mass arrest in the history of the Federal Republic of Germany?

Unfortunately, the Grimme jury missed out on quite a bit of quality material.

Rupert Noudock
(Stuttgarter Zeitung, 18 March 1983)

The prize awarded by Germany's war blind for the best radio play has done a great deal to foster the development of this broadcasting genre.

For more than 30 years, the prize jury, half of whom are war-blinded people themselves (the other half are critics) has been providing encouragement for many authors to try producing something for this field.

The award consists of a sculpture and a repeat broadcast of the prize-winning play on all German radio networks.

The 1982 prize went to Gert Hoffmann for *Die Brautschau des Dichters Robert Weiser im Hof der Anstaltswäscherei 'von Bellelay'* (literally: The Search For a Bride in the Bellelay Laundry Courtyard). It received 18 of the 19 votes.

Hoffmann's play showing how the banished Robert Weiser declared his love to the washerwoman at the laundry, are full of human warmth and credibility.

The production, by Hans Rosenhauer from the *Norddeutscher Rundfunk*, also added impressive local Swiss colouring to the presentation.

The jury's attention was also attracted by an experiment by the *Hessischer Rundfunk*.

During the "documenta 1982" exhibition in Kassel Jürgen Gier set up a series of microphones to gather the opinions and feelings of visitors.

He would have stood a better chance of topping the prize list if he had not been quite as liberal in his selection of how much of this "spontaneous" pleasure to keep in his "play".

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Germans take their TV to New York

Americans will be able to have a closer look at the realities of German films and TV presentations.

The first "German Film Weeks" in New York will be presenting a whole series of productions by Germany's two big broadcasting channels, ARD and ZDF.

The director of the federal off-shoot station *Westdeutscher Rundfunk*, Friedrich-Wilhelm von Sell, said the event was a breakthrough, which will help reverse the one-way trend in TV ties between the United States and the Federal Republic of Germany.

Whereas American TV productions are part and parcel of German TV life, German productions are few and far between on the other side of the Atlantic.

The programme presented in New York would also show that TV in Germany often prepares the way for cinematic success. Sell emphasised.

Together with productions from the field of "Documentation and Culture", "TV Plays and Light Entertainment" and children's programmes, there will also be a rundown of the most well-known films produced by the late Rainer Werner Fassbinder.

Fassbinder made a name for himself in the States. Over half of his 40 films were produced for television.

The programme in New York will also contain TV productions by director Wolfgang Peterson (22 TV films), whose film *Das Boot* became a big hit on the American circuit.

Upa
(Stuttgarter Zeitung, 18 March 1983)

It seems as if there is not sufficient confidence to try these hotly disputed issues due to their fast-moving nature.

Preference was given to psychological or socio-cultural fields. There are a striking amount of flashbacks.

In *Ein wahres Hörspiel* (A Real Radio Play) by Hans-Magnus Enzensberger (production by SFB) the author falls back on Diderot; Barbara Honigmann's tale *Der Schneider von Ulm* (The Tailor from Ulm), an SDR production, reflects on the dreams of self-fulfilment.

Elfriede Jelinek and Ursula Krechel searched to find historical figures such as Clara Schumann or Caroline von Günderrode when dealing with the topic of women's liberation.

The radio version of Christa Wolf's *Klein Or, Nirgends* (No Place, Nowhere) — WDR production — was also put on the short list for a prize.

Radio experiments with music were presented by Dieter Kühn in his tragic artist's monologue *Konzert für Sprecher und Orchester in e-Moll* (Concert for Speech and Orchestra in e-minor), another production by the *Hessischer Rundfunk*, which also delves into historical retrospective.

Another example of this approach is *Endstation — eine radiophonische Vision* (The End of the Line — A Radiophonic Vision) by Harald Welz, a critical look at media and psychiatry put on by the *Saarländer Rundfunk*.

The radio play is alive and well! Even if, as in other artistic genres, it has seen better days.

Klaus Colberg
(Frankfurter Neue Presse, 24 March 1983)

Which were the main topics dealt with this year? Were they the big problems of the day: unemployment, arms policies or the political situation in Bonn? Not at all!

The fact that Hoffmann's play got the

prize awarded by Germany's war blind for the best radio play has done a great deal to foster the development of this broadcasting genre.

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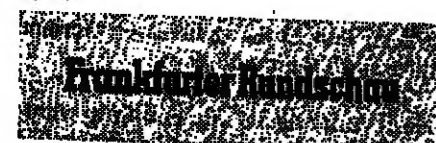
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Students sue university in row over arms sales



Dispute at Marburg University over whether theology students may write to arms manufacturers in a bid to get them to stop making arms has gone to court.

The students sued when University President Professor Walter Kröll gave them a written warning and then froze the student union funds.

They argue that their letters had nothing to do with politics but were motivated by "theological considerations and responsibility."

The dispute started in spring last year when the students joined protest demonstrations in an attempt to prevent firms from exhibiting at the Hanover Military Electronics Show (IDEE).

They wrote to one of the exhibitors from the Marburg region, Schoeller und Co. Elektronik GmbH, asking it not to exhibit.

"We regard this show as a threat to peace and a direct promotion of warfare from the territory of the Federal Republic of Germany," said the letter.

It was irresponsible enough to supply Third World military dictatorships with the military electronics they needed to strengthen their power but an even greater danger lay in the greatly improved target accuracy of weapons systems through which defensive forces inevitably became offensive.

"This means that a military establish-

ment must no longer wait and respond to attack but that the enemy must be beaten to the draw. It follows that this can hardly reduce the danger of war."

The firm was urged to "consider the possibility of switched its production to socially useful goods." The students told the company that they were interested in "discussing the issue."

The company did not reply. Instead, it asked the university president if the students were allowed to do this, and if not, whether disciplinary measures were called for.

In mid-May last year, Professor Kröll told the students that their letter was incompatible with the functions of the student body. He asked them to stop; otherwise he would be forced to act.

The students refused, saying that "our cause is too important for us to allow ourselves to be silenced." They wrote another letter to the company, asking for a discussion.

The company again told the university. Professor Kröll then, in June last year, forbade the students from "calling on free enterprise to abstain from exhibiting, attempting to induce companies to switch to another product and seeking discussions with them."

The students were also forbidden to use student union funds for that purpose. If they did not comply the student union assets would be frozen for three months "in the public interest."

The students ignored the warnings and their assets were frozen. They protested, and explained in a memorandum

that: "The theology student body holds that, in keeping with its responsibility to God and the people, it must take a stand not only on university matters but on the affairs of the world as well because we students neither can nor wish to study in an ivory tower."

The students pointed to the "specifically theological character" of their statements in the letter, saying that these statements "cannot be lumped together with the general political discussion on peace."

A student body must be entitled to make such theological statements because "the question as to how to bring about and preserve peace in the world is a major part of theological training."

Their letter therefore had to be understood as a concrete expression of fundamental Christian tenets.

Professor Kröll rejected the theological arguments. The letters were clearly political, he said. The student union had no right to extend the scope of its activities, which was laid down in the Hesse University Law.

The university argued in court that letters of this type were outside the legal scope of the student union and that the students were trying to exert influence on the production of a private company.

The students, before the case went to court, said the Pope had intervened in the Falklands and Lebanon conflicts, acting out of theological responsibility. This argument was not accepted.

Professor Kröll, clearly irritated, replied that "unlike the Protestant theology students union, the pontiff was not subject to the provisions of the Hesse University Law."

A final attempt to settle the matter by discussion only aggravated the situation.

Manfred Ronzheimer
(Frankfurter Rundschau, 16 March 1983)

Differing views on how 'peace' should be taught in schools



of force goes hand-in-hand with defence preparedness.

Young people must be made to understand that there was choice, per se, between military service and civilian service. National service was a general obligation that may be refused on conscience grounds only.

The SPA also stresses that national service is not a matter of choice and that a refusal can only be based on grounds of conscience. They Social Democrats consider it particularly important for secondary school students to be not only fully informed on the principles of military service and conscientious objection but that they should also have a general idea of the principles governing the state.

The SPD wants schools to provide students with a comprehensive understanding of peace, with all its ramifications.

Students should be familiarised with the different ideas on how to achieve and secure peace. None of these ideas

should be presented as the only possible or realistic one.

Students should be allowed to identify themselves with the various concepts of peace without having any foisted on them.

Peace education was enable young people to take an informed and active part in the nation's peace policy. To do so they would have to delve into security policy as well.

One of the objectives of peace instruction was to convey to the students that, as a defence instrument, the Bundeswehr has a firm place in our society — a place assigned to it by the Constitution.

Conservative education ministers argue that the SPD's concept says nothing about how to provide objective information on the Bundeswehr in the face of violent disruptions of swearing in ceremonies and the militantly anti-Bundeswehr stance of entire secondary school classes.

The conservatives believe that compromise solutions can be worked out. But the latest conference of state education ministers did not deal with the issue at all.

dpa
(Frankfurter Neue Presse, 19 March 1983)

A Bundeswehr captain in the classroom

The Bundeswehr uses young officers to put across its view in the schools.

Their aims are to provide information about the Bundeswehr and its security policy and to try and gain some understanding for peace services.

One such officer is an instructor. He often gets asked questions: Are you free to say what you like? His answer is yes. There is no restriction forbidding it.

The captain visits senior secondary schools.

To establish a rapport with the pupils and remove mistrust of the military, Dr Josef Isella, a cancer specialist, said cancer research has been "up a blind alley for 120 years".

Other speakers at the International Congress of Nature Healers said that conventional medicine had made no progress against cancer despite the expenditure of huge amounts of money. Therefore conventional medicine was qualified to ridicule natural medicine.

Nature healers are convinced they are on the right track because more people, both patients and medical students, are demanding a more biological approach to medicine. They are becoming increasingly afraid of the effects of modern drugs.

One study showed that 30 per cent of cancer patients tried natural medicine. They learned they had the disease in the late stages, the proportion jumped to as high as 50 per cent.

More and more conventional doctors are now prescribing natural medicine. Nature healers say they save the national health service of some DM1.5bn a year.

The young captain has dropped his military manner and is totally relaxed when he can always be assured of a stormy applause from nature healer quarters. But a world without conventional medicine?

This is where many of the contradictions lie and he answered saying: "Right now, there are armed conflicts going on in the world. He scores another point.

The going gets tougher when he is asked to explain the function of a defence alliance, being a defence alliance.

There are some disenchanted rings when he says that NATO has been in Germany 30 years of peace.

Hecklers: "It's all empty words, know what's what."

They ask questions about drinking and boredom.

The officer reminds them that of them will soon be drafted into the army themselves, telling them that "the spirit of totalitarianism is dying out and virtually non-existent in the Bundeswehr than anywhere else."

"With boredom, it's like at school, good NCO can prevent it just as well as a bad teacher can."

A girl raises a delicate question: wanting to know the captain's attitude towards the peace movement.

His answer: "By and large, people of goodwill, and those of them are driven by fear."

Nobody asks him about his fears.

Stephan-Andreas C...

(Kölnischer Stadt-Anzeiger, 21 March 1983)

MEDICINE

Very unconventional Professor Hackethal goes on a thorn-sticking campaign

Conventional medicine has no healing monopoly and patients who are to be treated by nature healers should be allowed to, says Professor Hackethal.

Professor Hackethal, a conventional doctor, told a nature healers' meeting in Mainz that he would remain a thorn in the side of conventional medicine.

The professor is always assured of a hearing at natural medicine meetings because of his constant criticisms of his conventional colleagues.

Another conventional medicine practitioner, Dr Josef Isella, a cancer specialist, said cancer research has been "up a blind alley for 120 years".

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Speakers like Professor Julius Hackethal said conventional medicine has no healing monopoly. Patients want and should receive help from nature healers as well.

He had not all of his heretical theories forward five years ago been proved by the fact that he asked.

Anyhow, he would remain a thorn in the side of conventional medicine.

He still upholds his theory that preventive mass checkups for cancer only serve to spread the disease.

But even if this were disregarded, Professor Hackethal said that millions of marks are being wasted, to the detriment of the patients.

Have cancer fatalities not risen despite these preventive checkups? he asked.

He called on the nature healers to inform the public of the pitfalls of mass checkups. Some of his colleagues had now adopted some of his views.

While they still tended to operate too quickly, their surgery was now less radical than it was.

Dr Isella was also critical of what he called the blinkered attitude of his colleagues.

He accused them of refusing to draw their conclusions from the fact that cancer research has been up a blind alley for more than 120 years.

Enormous amounts of money, he

said, were pumped into research programmes, mass checkups and cancer centres. He suggested that it would have been better to review our concept of cancer instead.

Dr Isella called on the medical profession to resist the "monopoly claim of some privileged theories."

He contrasted these theories with his own theory that takes the whole person into account: tumours are formed when the entire defence system of the body collapses.

As a result, what is needed is a regenerative therapy directed at the whole person and combined with a therapy targeted on the tumor itself.

Dr Isella said that this approach had enabled him to achieve successes even in late stages of cancer.

But even the nature healers could not warm to the theory put forward by Dr O. Hamer.

In his view, cancer is caused by a severe psychological conflict and the tumor occurs exactly 18 months after the conflict. It can be cured if the patient resolves the conflict within himself.

Dr Dieter Hager, vice president of the newly founded society for biological cancer prevention in Heidelberg, confirmed that the pressure exerted by nature healers had strengthened the

position of new biological approaches in the fight against cancer.

He said that his society came into being as a result of the failure of the cancer fund to recognise natural medicine as the fourth pillar of cancer therapy.

He suggested that the nature healers' concept contained a number of elements that warranted more thorough research and clinical experiments.

What new insights did the congress provide? E.S. Scharnik, the president of the German Nature Healers Association, suggested that the most important result of the meeting was the fact that even critics of natural medicine are now for the first time prepared to enter into a discussion with nature healers.

His remark was primarily directed at Professor Irmgard Oepen who, despite boos from the audience, had the courage to point out that nature healers could be a danger to their patients and that there are no laws governing their training.

She also deplored the fact that the exams for nature healers are mainly aimed at establishing whether the candidate will be a menace to national health and whether he is aware of his limitations.

Professor Oepen blamed this on the lawmakers rather than on the nature

Cancer: doctors stop fighting each other

cancer, he came up with his multi-step therapy in 1965.

The approach is based on a sequence of therapy steps intended to make tumours die a natural death.

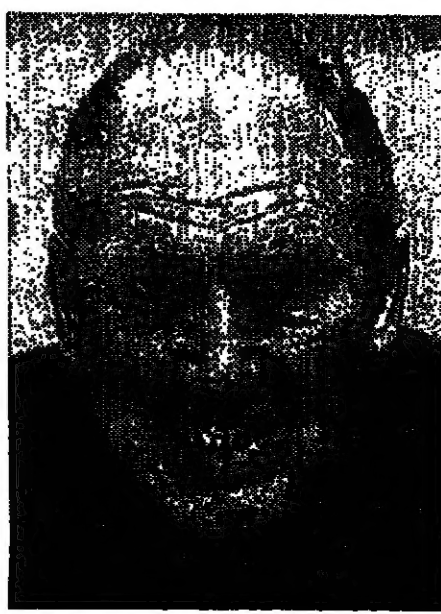
The main steps (which include conventional methods like surgery, radiation and chemotherapy) are:

Step 1: Feeding the cancer cells to get their metabolism going. This is done through a six-hour infusion of dextrose. The healthy cells remain unaffected by it while the tumour cells develop over-acidity due to increased lactic acid.

Step 2: Overheating the tumour cells, which are more sensitive to heat than healthy tissue. The assumption is that this is due to the tumour cells' acid environment. The infusion of dextrose that leads to increased acidity makes the tumour cells even more sensitive to heat, causing them to die at temperatures between 40 and 42°C which leave healthy cells unaffected.

Step 3: Uncoupling the tumour from the rest of the body. Over-acidity and heat contract the blood vessels in the immediate vicinity of the tumour and make the blood corpuscles in the tumour tissue swell. The swollen corpuscles get stuck in the narrowed blood vessels, isolating the tumour from the rest of the body.

Step 4: Self-decomposition of tumours and metastases. Von Ardenne calls this a cytolysis chain reaction. As soon as the first tumour cells have been destroyed by over-acidity and heat, they release enzymes that decompose the



Professor Julius Hackethal... danger in mass cancer checkups.

(Photo: Sven Simon)

healers themselves. She suggested that a sensible approach to this problem should be feasible.

Following a cooperation agreement between nature healers and conventional medicine, she now considers joint work at least thinkable.

Scharnik expressed his satisfaction at the fact that conventional medicine is now at least prepared to discuss alternative therapies.

One speaker in the discussion round suggested that one way of warding off attacks from the conventional camp was to "provide clear biochemical evidence for our nature therapy approach."

Heidi Parado

(Stuttgarter Zeitung, 14 March 1983)

dead cells. These cytolysis enzymes also attack neighbouring cells that are only just viable, destroying them as well. This process continues until all tumour cells have decomposed.

The uncoupling of the cancer cells from the rest of the body achieves two things: the disintegration process does not affect neighbouring healthy tissue and the body does not suddenly become flooded by the toxic decomposition products of the dead tumour cells.

Instead, the decomposition takes weeks or months and has no harmful effects.

It took von Ardenne and his research team at the Dresden Institute from 1965 to the early 1970s to develop the multi-step therapy and test it on animals.

Once this was done, the road was clear for clinical experiments with humans.

But medical traditionalists in the Federal Republic of Germany and the GDR put objections.

Though tests were carried out in some hospitals, they involved very few patients and these had already been written off medically by the doctors.

The traditionalists' opposition to the multi-step therapy did no harm to the new concept. Von Ardenne used this time to improve and introduce considerable changes in his hyperthermia technology: the original hot bath was replaced by microwave radiation that makes it possible to impart more heat to the immediate tumour environment than to the rest of the body.

It was this that spelled the breakthrough. The Dresden Medical School, backed by the GDR health ministry, began clinical tests early last year. Now the Heidelberg centre is involved.

The barriers put up by traditionalists now seem to have been removed.

Dieter Dietrich

(Der Tagesspiegel, 12 March 1983)

■ INNOVATIONS

Burth of a disc halts the death of an industry

The Burth Disc is a device which enables large cinemas to be split into smaller cinemas. It was invented at the end of the 1950s by Willi Burth, now 79, who comes from Ravensburg but now lives in Kressbronn.

The invention means that one projectionist can run several cinemas instead of just one because reels no longer need to be changed.

As a result, expert say cinema attendances have increased by almost 400 per cent, giving the industry a much-needed boost.

You can find old Willi in the labyrinth of his air-raid cellar, assembling his adventurous experimental devices.

He uses absolutely everything, from wooden blocks to beer crates, from bicycle spokes to parts of a model railway.

He's lost count of the many worldwide patents he has to his name, "between 30 and 40" he reckons.

Willi was always keen on presenting and projecting films.

While still a lad he built a model projector and using self-painted slides as title links put on a small film-show for his mates at a few pfennigs a time.

Later on he started repairing projectors and much to the dismay of his father travelled around from one village to the next presenting his films.

He spent the money he earned while undergoing a textiles apprenticeship on a large projector, and soon he bought his own cinema.

Soon he had the largest cinema in the whole region and today he owns eleven in all — eight in Ravensburg and three in Biberach.

Nevertheless, he sees his cinema as leanings in a self-critical light.

He hasn't seen a film right through for some time now, "five minutes here and then minutes there — that's enough for me," he admits.

The principle behind the Burth Disc is quite simple.

When the films come from the distributors, they arrive in different sections. In years gone by it was common practice to run the film on seven reels, and show them alternately on two projectors.

The projectionist must keep a keen eye on the exact break in the film and keep changing the reels accordingly.

After the film was over it had to be rewound, which tended to damage the quality of the celluloid.

At most, these copies only survived 1,000 projections.

Burth started sticking the individual sections together and winding them up on a large, horizontal moving disc.

While on this disc, the film is not subject to any mechanical demands.

The distributors reckon that this system means that the film copies last up to forty times longer than normal.

Many of the time projectionists tried to get a full-length film, which easily weighs a hundredweight, to run on the old vertical system.

But anyone who knows his way

around mechanics can imagine what kind of strain the film was under.

As Burth points out: "At the top the film had to stand the strain of considerable pressure, whilst the lower part kept hanging down — there was a kind of sandpaper effect."

The latest invention on Burth's long list is a disc which can both wind and rewind, making the process of additional rewinding superfluous.

On registering the patent for his latest discovery Burth found out that the Americans had been working on this problem since 1927.

It took a Swabian to put it into practice.

There is also another reason for the great interest shown by the cinema world in this new invention.

Cinema owners and projectionists are in the middle of new negotiations on pay.

The cutback in personnel which is a probable result of the new discs may well mean that more cinemas can be opened up.

Burth describes the situation: "The owners have to save money. The distributors are already asking for up to half of the takings."

Old Willi is no longer involved in the day-to-day business of running his own cinema. This is his son's job.

And yet Willi can often be found tearing off the tickets of an evening.

As soon as the film starts being shown, off he goes down into his experimental cellar, "to invent anew."

To see Burth standing underneath the dome of his cinema you wouldn't believe he is over half a century older than most of his regular cinemagoers.

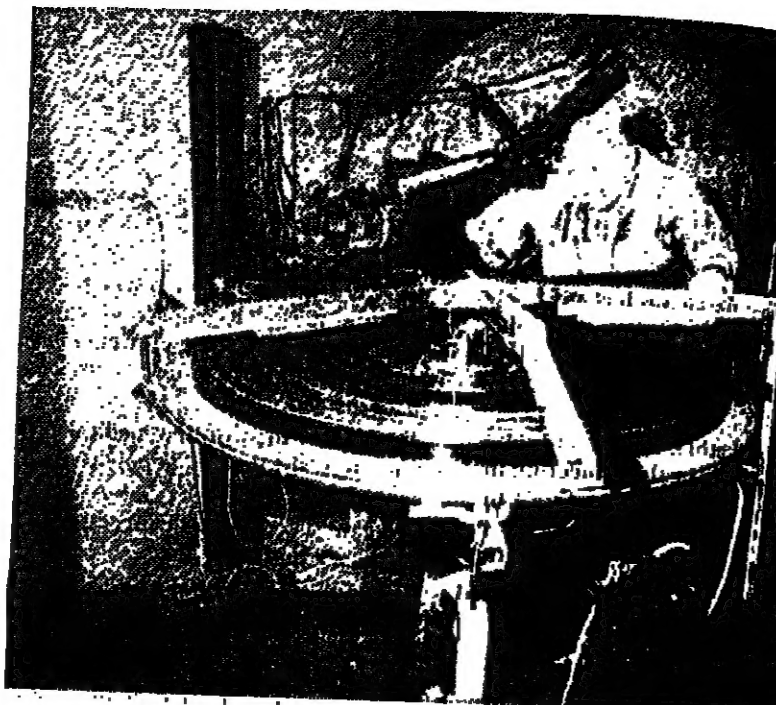
He's handed over some of his honorary posts to his son, who will very soon be presenting a conference paper on the technological possibilities open to the use of computers in cinemas.

The old Swabian gent goes into raptures when he contemplates the vast range of functions such computers could carry out.

"It could control all the other machines, check the focus and brightness and lots more. But that's something others will have to have a go at, I've done my bit."

Nobody will deny that. After all, Burth, who once built the best amplifier

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Willi Burth with his revolutionary disc.

(Photo: Dpa)

Pensioners' pedal-plane needs a pilot with lung power

Four elderly Germans have designed a pedal-powered aircraft. It has neither motor nor sails such as a hang-glider has.

The man inside the aircraft is hard peddling was 23-year-old Oskar Staudenmayer, who builds model aeroplanes, is a pilot and a keen cyclist.

The pilot must pedal. A driveshaft takes the power to the propeller. On his most recent flight it travelled 350 metres in 50 seconds at between 50 and 150 centimetres high.

Although the aircraft could not better its previous record of 700 metres achieved with a tail wind on 4 December, 1982, the hopeful designers classed the event as a "total success".

Press and TV had turned up to see what was "in the air".

The flight showed that this aircraft, weighing just over 50 kilograms, "can be flown and guided properly".

The four designers have been working on "their bird" for eight years now in an attempt to turn man's age-old dream of flying by his own efforts into reality.

Wolfgang Hüter (73), Franz Villinger (75), Wilhelm Schulte (74) and Wilhelm Heselschwerdt (72) were not the kind to spend their lives as pensioners sitting on a garden bench feeding the birds.

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board, where they worked out the details of would-be aircraft.

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